p79-0367(165)

ComputerNews

```
CHN7                                                  M-CHANNEL MASK (0/1)
                                                        0123456789ABCDEF
   +----+----+----+----+----+----+----+----+----+----+  0110000110100000
CHN8
   +----+----+----+----+----+----+----+----+----+----+ C-PROCESSOR MODE
P/C1                                                    → 1 - TOTAL
   +----+----+----+----+----+----+----+----+----+----+    2 - SUPERVISOR
P/C2 ■                                                    3 - PROBLEM
   +----+----+----+----+----+----+----+----+----+----+
P/C7                                                   R-REFRESH PERIOD- 01
   +----+----+----+----+----+----+----+----+----+----+   (1-60 SECONDS)
P/C8
   +----+----+----+----+----+----+----+----+----+----+ A-ACTIVATE
   0   10   20   30   40   50   60   70   80   90  100 P-CANCEL

                              PSW=070E0000 00000000 S WT   ↑   73E  (NB)
```

University of Toronto

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UTCC Systems
UTCC Directory

Monday morning, December 11, saw the culmination of many months of planning and hard work. I am proud to report to you that at 8 A.M. Monday morning the IBM 3033 running MVS became a production system. The successful installation of new software and hardware along with the smooth transfer of services and machinery from the S/370-165-II to the 3033 marked the tremendous effort required for such an accomplishment.

For months, site preparations and software tests have been underway. On Friday evening, December 8, services were terminated on the S/370-165-II. During the 62 hours from Friday evening to Monday morning, communication lines, volumes of data, and numerous pieces of equipment were moved to the new site. Also during these hours, disk data was converted to the new drives, and the MVS operating system was installed and tested.

As might be expected in a project of this magnitude, not everything went as planned. It was only through the supreme effort of UTCC staff members that we were able to meet the Monday morning deadline. Many staff members were in regularly throughout the weekend; some had to be told to go home to bed after 48 hours of continuous work.

I would like to express my gratitude to all the installation team, practically the entire UTCC staff, that made it all happen despite numerous seemingly unsolvable problems. The events and results of this effort are further reported in this issue, but the efforts of UTCC's staff before and during this trying experience is what made these reports possible. In addition to thanking the staff I must also acknowledge the scores of people from Physical Plant, IBM, Bell Canada, Control Data Corporation and many outside contractors who worked hand in hand with our staff to make this conversion a success.

In the near future other phases of the consolidation effort will be occurring. Yet, while we strive to improve our traditional services, we can not neglect our responsibilities to examine future needs. We must continuously search for better ways to harness new technologies for cost-effective improvements of our services.

Several months ago, UTCC established a team to study, propose, design, and ultimately implement a standalone micro-computer based system. UTCC's goal is a system with an open-ended design for a powerful general purpose work station to be used as an individual computing facility. Through this standalone facility we hope to take advantage of an expected drop in hardware costs. The work station would be linked to a central mainframe to provide access to databases, high powered computing facilities and most

cont'd...

importantly, to provide access to a library of centrally developed and maintained utility and application programs. We recognize the fact that the future cost of computing will be primarily associated with the expense of software maintenance and development. We will strive to minimize these costs by maintaining software on the mainframe while having it executed on the standalone.

The first area in which we expect to apply this new philosophy is the student High Speed Job Stream. The "punched card - batch" nature of HSJS was a good solution in the late Sixties and early Seventies, but today many of our neighbouring campuses have significantly improved on this approach by hooking minis and micros to mainframe facilities. The result is that students enjoy better, more effective computing services and are exposed to a variety of modern computing concepts and facilities. These facilities play a significant role in the ability of an institution to attract the right kind of student. Therefore, it is imperative to undertake the responsibility of providing modern, easy to use facilities for our students.

In this issue you will find a more detailed description of our proposal for distributed standalone computing facilities, internally known as the VIVA project. Our initial proposal for the VIVA project is being sent to the senior administration of the University and to other appropriate committees for their consideration. I urge you to read the article. Your suggestions, comments, and criticisms are more than welcome.

Dr. Doron Cohen
Director

CONSOLIDATION

In the November issue of COMPUTERNEWS, UTCC reported on the arrival of the IBM 3033 Processor and highlighted the completion of renovations to our new site. At the time the November issue went to press, UTCC personnel had completed preparations to move the peripherals from the S/370-165-II, the tape/disk library and the S/370-165-II CPU to the new site.

On Friday, December 8, at 1800 hours, the S/370-165-II was powered down to allow the detachment of several peripheral units to facilitate their early movement to the McLennan Building. The system was then brought up again to allow UTCC to prepare back-up copies of all on-line files on tape to be used as conversion vehicles to create new on-line packs on 3330-11 compatible disks. As the tapes were created, they were carried to UTCC's S/370-158 administrative computer at 215 Huron Street where the on-line packs were built. When this was completed, the S/370-165-II was powered down again to remove the balance of the peripherals for shipment to the McLennan Building.

While this plan appeared straightforward enough, the weekend was anything but dull for UTCC and the vendor personnel. Although every effort had been made to provide for redundancy and back-up of systems during the move period, there were still a few aspects that had to be carried out with no possibility of fall back. The two key items were the move of the teleprocessing equipment, and the rearrangemnet of the channel extender cables which allow UTCC to run EUT, EAT and ASUT as locally attached devices even though they are located about 1800 feet from the IBM 3033 Processor. The teleprocessing job, as well as the recabling of ASUT, went as smoothly as could be expected. However, the link to EUT/EAT which was recabled on Saturday afternoon failed to function as planned. IBM and UTCC personnel worked round the clock on the problem until it was resolved Sunday evening. Following the completion of this, final software conversions were installed by UTCC personnel Sunday night and early Monday morning. The IBM 3033 production system was brought up as planned Monday, December 11, 1978, at 0800 hours and has been running satisfactorily since that time.

Work began on the disassembly of the S/370-165-II CPU, memory and channels and the removal of the motor/generators from the Sandford Fleming building. This exercise occupied Monday and Tuesday, with assembly operations commencing at the McLennan site as the components arrived. On Thursday, the S/370-165-II was powered up and diagnostic activities began. As this edition of COMPUTERNEWS goes to press, these activities are complete and software testing to facilitate the installation of APL and ATS on the S/370-165 in January is now underway.

In the next edition of COMPUTERNEWS, UTCC will report on the results of the conversion of interactive services to the S/370-165. In concluding this article, UTCC would like to acknowledge the efforts of all parties concerned in making this conversion to the McLennan facilities a success. Thank you to personnel of:

Control Data Canada Limited
Finlay Engineering Limited
Hill Security Van Lines
Ian W. Nicholl Architect

cont'd...

CONSOLIDATION cont'd

IBM Canada Limited
Itel Canada Limited
John Rae and Sons Ltd
Kalns and Associates Limited
Sayers and Associates Ltd
Smith and Long Ltd
U of T Physical Plant department
U of T Police

for a job well done.

Thank you also for the co-operation of the residents of the Sandford Fleming, Galbraith and McLennan Buildings during the move and a special thanks to our users for their patience and understanding over this hectic period.

Derry Cox

NEW ACCOUNTING ALGORITHM AND RATE SCHEDULE FOR 3033/MVS

Effective with the installation of the 3033 Processor, the charging algorithm and rate schedule for the execution phase of GPJS and TSO sessions was changed as documented below. The rationale behind this change was described in detail in a previous article (see "Accounting Algorithm Changes With 3033/MVS", COMPUTERNEWS #164) - briefly it is a changed environment and more cost-effective machinery.

The format of the algorithm descriptions below is taken from USERBOOK Section 2. Users are referred to this section for a detailed description of the previous algorithm.

1. GPJS

```
Job Charge = SF * (
              ($CPU*CPUTIME)
             +($MEM*MEMUSAGE)
             +($IO*IOUSAGE)
             +URC + PDC)
```

where

SF = service factor based on PRIORITY and is unchanged from the old algorithm

$CPU = $24.00 per CPU minute

CPUTIME = measured CPU time in minutes. This figure includes both the CPU time used by the user's program and the CPU time used by the operating system satisfying the user's programs' requests.

$MEM = $5.30 per 100 kilo-byte minutes of virtual storage usage

MEMUSAGE = VMU * ERT

VMU = virtual memory used. N.B. There is no quadratic factor applied as in the old algorithm

ERT = (0.0049 seconds*IOUSAGE) + CPUTIME

$IO = $0.25 per 1000 IOUSAGE

IOUSAGE = Disk EXCPs + Tape EXCPs + VIO Pages

EXCP = The transfer of one block of data to or from memory and disk or tape. EXCP is an acronym for EXecute Channel Program.

cont'd...

NEW ACCOUNTING ALGORITHM cont'd

VIO Pages = VIO PAGEIN + VIO PAGEOUT + VIO RECLAIM. VIO PAGEIN is the transfer of one page (4096 bytes) of data from disk to memory - VIO PAGEOUT is the opposite. VIO RECLAIM is the re-assignment of a page which was scheduled for page out - this figure is necessary in the algorithm in order to ensure that the total VIO page count is reproducible.

URC = Unit Record Charge and is unchanged from the old algorithm

PDC = Peripheral Device Charge (form mounts, disk and tape mounts) and is unchanged from the old algorithm.

2. TSO

Session Charge = ($CPU * CPUTIME)
+($MEM * MEMUSAGE)
+($IO * IOUSAGE)
+ CTC

where

$CPU, CPUTIME, $MEM, $IO, and IOUSAGE are the same as in GPJS above. N.B. This in itself is a change from the old algorithm in which $MEM for TSO was 1.5 times that for GPJS.

MEMUSAGE = MRMU * ERT

MRMU = the average memory usage figure over the duration of the session. MRMU is an acronym for Mean Real Memory Used.

ERT = the same as in GPJS above

CTC = Connect Time Charge and is unchanged from the old algorithm.

3. Summary

As stated in the previous article on this subject referenced above, the objective of this new algorithm and rate schedule is a typical reduction of 22% in execution charges. The intent of this price reduction is to pass on to our users the cost savings of both the new hardware and UTCC consolidation. We hope you find it a pleasant change in these days of inflation.

Sean Keeley

TSO CHANGES

One word sums up TSO users' response to the recent upgrade, and that word is GREAT. Response is great. The new TSO reconnect feature is great. The new job submitter/retriever is great. The expanded CLIST functions are great. You can even invoke TSO in the background.

Users who referred to TSO as TSLOW will just have to get used to the new fast TSO. Commands have been rewritten to take advantage of the new system. For example, Scratching and Registering, which used to take up to five minutes during heavy loads, now typically take less than 1 minute. Editing, job submission, job retrieval and CLISTS are also faster.

cont'd...

TSO CHANGES cont'd

With the TSO reconnect option for logon, users can recover their edit file if their line is disconnected.

The new job submitter/retriever features (called JES2 TSO Interface Program) allow users to SCHEDULE jobs for background execution, to SHOW the status of their jobs, to FETCH the output, QUEUE their job for printing, and to ROUTE their jobs. While the TSO submit command used to just prompt the user for the job character, JTIP will allow the user to enter up to five JCL cards from the terminal. Thus the user can 'hide' his password. Retrieving output is faster. Output can be scanned for a string, it can be printed on the terminal or placed in a dataset, and the user may request that only a specific SYSOUT file be retrieved. All JTIP commands are faster than their previous MVT counterparts.

TSO CLISTS now allow users to perform loops, test for various conditions, write information to the terminal, and accept information from the terminal. Thus it is now possible to make CLISTS intelligent and relatively foolproof. With the prompting and testing facilities, CLISTS can be designed for the novice user. An added feature is the /* comment facility which allows CLISTS to be self documenting. For more information refer to the OS/VS2 TSO Terminal Users Guide, Section 6, Command Procedures.

Although most users will not use the background TSO facility, batch users may notice that the ALLOC and CONVERT utilities now are two step procedures. The first step formats a TSO exec file which is passed to the second step. The second step invokes TSO in the background. This will allow UTCC to have one version of a utility which can be used by both batch and TSO users.

Mark Tapia

VIVA PROJECT

In proposing the VIVA project, UTCC hopes to bring the factors of increasing reliability, versatility and speed of computers along with decreasing hardware costs within easy reach of the end user; whether that user is a student, a faculty member, a secretary or an administrator.

In The Beginning .....

The VIVA project started with the concept that access to, use of, and output from UTCC computers could be streamlined and simplified in several aspects. This required an investigation and review of currently available hardware and software systems. Slowly a design concept began to emerge.

Central to the configuration are "host" computing services provided by our IBM 3033 and DEC 10 mainframes. Attached to the host (either hardwired or via telephone lines) are a multitude of distributed processing work

cont'd...

VIVA PROJECT cont'd

stations. These work stations incorporate a powerful micro processing unit with a screen-oriented device and the capability of reading from and writing to a removable medium (such as diskette or tape cartridge). Depending on the application and location, several work stations might share a medium speed printer or each one might have its own low speed printer. The end goal is to create a standalone 'personal' computing system that can assume many different roles.

The first problem to solve was how to transfer programs and data from the host to the work stations for execution. Without a comprehensive plan for such distribution, the work stations could not be guaranteed to be up to date with software releases, documentation, advising services, UTCC publications, or central computing services. UTCC has developed the following concept as an integral design feature of the VIVA system.

The host is declared to be the "owner" of all shared application and system code, and only one host version is considered to be the currently supported of any program. The development, maintenance and service costs of the various applications are therefore minimized. However, the host sends copies of programs, on user request, to the work stations where they are actually stored and executed. Once transferred, such data will continue to reside at the work station until it is superceded, damaged, or the space it uses is needed for something else. Programs begin by asking the host if they are at the current distributed version and maintenence level. Appropriate updates, if required, are performed prior to the beginning of execution. In contrast to these system-owned programs, user-written programs and data reside on the user's own diskette and are not subject to host control or central support. This concept overcomes several problems of multi-computer systems including central support, central distribution and automatic maintanence.

Phase I

It soon became clear that the scope of the proposed project will have dramatic effects on all levels of computing at the University of Toronto. It was also apparent that UTCC would have to acquire more expertise in the many aspects of the design. The best approach would be implementation in phases, thereby allowing UTCC staff to learn from the users' exposure and feedback while gaining the required experience and expertise.

The greatest initial difficulty was anticipated to be the development of a good expandable base system. With this in mind, the first phase has been initiated using the following guidelines:

1. It must be implementable in the required time frame.

2. It must be a reliable product.

3. It must not close avenues of potential design expansion.

4. It must be usable in its own right.

Program submission to the High Speed Job Stream was chosen as the target for Phase I. Implementation in conjunction with the HSJS has

cont'd...

VIVA PROJECT cont'd

several advantages. It provides a long overdue improvement for the out-of-date student computing services by providing an alternative to the punched card, batch technology of the late sixties as well as exposing the students to the current technology of micro systems and on-line interactive processing. This implementation would incorporate many of the design features which are essential to the overall project, and because it is heavily used, would provide a realistic testing ground.

HSJS Under Phase I

Phase I will allow the user to prepare programs using a full screen text editor and submit the program for execution on the host processor. The host will return the output to the work station, where the user will be able to use the full screen display to "browse" through the listing. At first glance, this doesn't seem to be any great achievement over other products currently available at UTCC. However, the work station combines keypunch/card-reader/line-printer all in one place and is available at the user's fingertips. Let's look over a user's shoulder as he sits down to a typical session under Phase I.

The first step is to start up the terminal. Powering on, the user pushes a button called "start" which automatically loads the terminal; moments later, the first screen of information appears. The user can now select from a variety of listed functions (not unlike selecting items from a restaurant menu). Another menu format might be a "fill-in-the-blanks" type.

On the first display, the user is requested to insert his removable storage medium so that logon information, and the user's programs and data can be read in. The second screen appears. Some of the selections available on this menu are BROWSE, EDIT, EXECUTE JOB/PROGRAM, etc. He still hasn't got this week's assignment quite right, so he selects EDIT and the first EDIT menu appears. This display asks him to "fill-in-the-blanks" for dataset name. In this case, the file happens to reside on the user's own removable medium. The work station has automatically copied the appropriate data from the diskette to the local storage area.

After the file is accessed, the first page of the user's program appears. He is able to scroll up and down through his program and change the content as he goes. After all changes have been made, he exits from EDIT mode. The new version of his file is automatically saved in the local storage area.

He submits his program for execution using another fill-in-the-blanks menu. In this case, the "blanks" have been initialized with defaults appropriate for the HSJS. Our user is happy with this and merely pushes the enter key. This causes his file to be prefixed with some information and transmitted to the host for execution.

Once the job has been executed, the user goes to SPLIT SCREEN Mode. He examines both the source and output listings simultaneously. Satisfied with the results, he sends his output to the local printer.

cont'd...

VIVA PROJECT cont'd

That's it for today. He instructs the system to save the changes and additions made during the session on his diskette. Time to go and hand in the assignment. He wishes he didn't have to trudge through all that slush to get to the professor's office. Maybe things will be better next term. Rumor has it that by then, the system will be enhanced and he'll be able to send his assignment directly to the professor from the work station ......

The Future.....

Even in Phase I, the VIVA work station will have a certain amount of independence from the host. In particular, the text editor, although updated to the current version and support level by the host processor, will execute in the work station.

However, as the project gathers momentum, the VIVA work station will acquire even more versatility and will be capable of executing more and more functions on its own. In our example above, the HSJS compiler will migrate to the work station. Thus, the student may be able to complete his task without mainframe processing. Other potential work station applications include word processing, interactive applications and languages, graphics and expanded access to host computing services.

Whatever path the VIVA project takes, the guidelines for evolution will always be flexible in order to respond to the ever changing user needs while retaining reliability and cost effectiveness for the user of UTCC facilities.

Terry Wood

SPEAKEASY SESSIONS

GOULD Graphics under TSO

With the MVS version of the operating system, the facilities used previously for spooling print datasets and for spooling GOULD plot data have been merged together. As a result, GOULD plot data files can be treated as ordinary sysout files. One advantage of this is that user programs using GOULD can now be run under TSO. This is especially useful for debugging plotting programs that the user has written and for getting quick graphs out of the SPEAKEASY system.

To use this facility, the user need only allocate the file called 'SYSVECTR', the GOULD output file, to a SYSOUT dataset, run the GOULD program, then 'free' the sysout file for processing. The file must be freed to a particular sysout class (7 for normal forms), or it will not be plotted.

If your job is partially completed and you decide you do not want the data plotted, free the file SYSVECTR with the DELETE keyword.

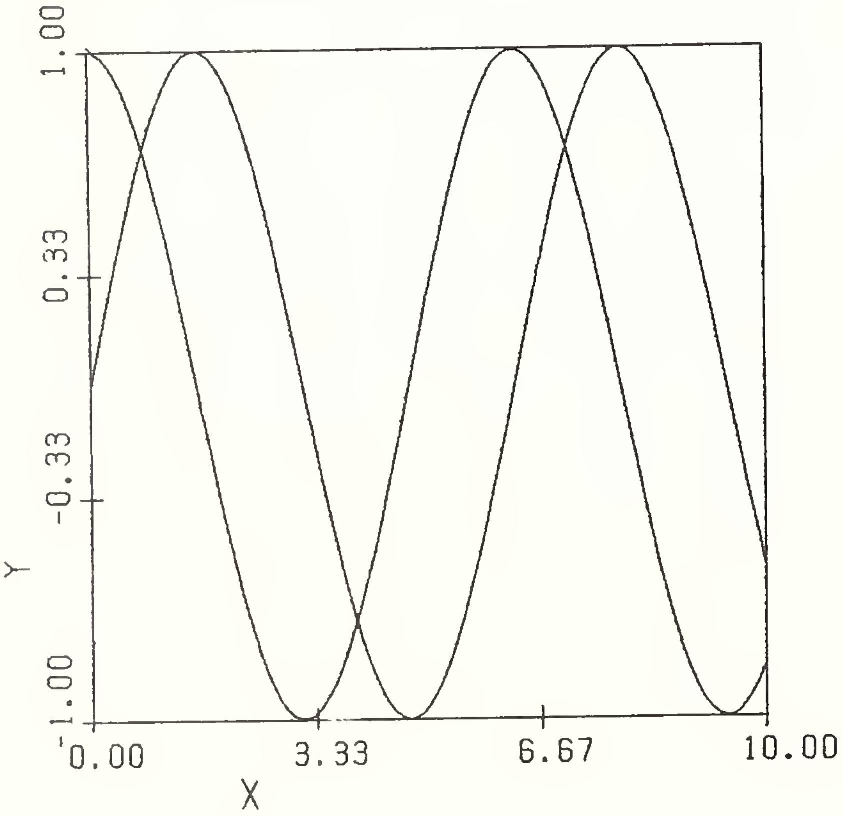
The following is an example using the TSO GOULD facility with SPEAKEASY graphics. The overall session flow would be similar for a user-written program which calls the GOULD software (it must have been previously re-linkedited for MVS!).

cont'd...

SPEAKEASY SESSIONS cont'd

```
READY
alloc file(sysvectr) sysout
READY
speakez
TSO SPEAKEASY 3 MU+  1:16 PM DECEMBER 20, 1978
:_vsize=3;hsize=3
78-12-11 New bug list, enter HELP MVS
:_x=grid(0,10)
:_y=sin(x)
:_z=deriv(y:x)
:_vsaale=-1,1;hscale=0 10
:_gould
  PLOTTING INITIALIZED
***UTCC GOULD 5200 PLOT SOFTWARE. VERSION 52 LEVEL  1, AUGUST 1977.
PLOTST COMPLETED; NAME IS:
:_graph(y,z:x)
:_enddraw
PLOTTING COMPLETED
1 GRAPHS DRAWN
PLOTND COMPLETED
:_quit
 SPACE USED  4 K NOW,  5 K PEAK,  SIZE   15 K
READY
free f(sysvectr) sysout(7)
READY
```

The plot produced by this session is as follows:



SPEAKEASY users may enter HELP GOULDTSO for an online summary of this procedure. Users with queries on SPEAKEASY should call Ian Darwin; users with queries on graphics in general should call Kin Fong.

Ian Darwin

DUAL DENSITY DISK DRIVES INSTALLED

Some users may not be aware that as part of the recent upgrade to MVS, UTCC has installed dual density 3330 type disk drives. These drives are logically the same as the familiar 3330's except that they contain twice the storage capacity of the older 3330 drives, 200 megabytes of storage each.

The maximum track capacity, however, is the same, 13030 bytes, and this change is logically transparent to the user if he continues to use the standard UTCC catalog procedures and naming conventions. However if users are using IEHMOVE they should specify UNIT=3330 in the JCL and in the IEHMOVE Control Statements. If you have any questions, please call Herb Kugel, at 978-7286.

Herb Kugel

S/370-165-II TO REPLACE S/360-65

As this issue of COMPUTERNEWS goes to press, the reassembly of the S/370-165-II is in progress. It will soon be ready for the IBM Customer Engineers to run CPU, Channel, and storage diagnostics. Upon successful completion of the testing, O/S Release 21.8 with MVT/HASP will be installed on the Interactive Services machine. System tests of APL and ATS on the new operating system will hopefully give us a production system by January 13, 1979.

In last month's COMPUTERNEWS article on the replacement machine, several service enhancements were cited. These included improved performance due to instruction retry, more powerful microdiagnostics, faster CPU, and larger memory size among others. In addition, there are several other features of the S/370-165-II which help enhance the service provided. These include:

- high speed multiply
- increased resolution of the interval timer
- four way interleaving
- remote analysis of the hardware errors

In addition, 3330-II disk devices will reduce the number of channel programs that have to be initiated in order to require arm position seek and, in conjunction with block multiplexing, will increase system response by increasing channel throughput.

In short, the S/370-165-II should provide APL and ATS users with a vast improvement in service with little if any change in cost. If you have any questions regarding APL/ATS services on the S/370-165-II please call me at 7374 for further information.

Kam Jain

COMPUTING IN THE HUMANITIES

Early in December, UTCC hosted a meeting of computer users in the Humanities, a representative from the Office of Research Administration, and staff from UTCC. The meeting focused on problems which people in the Humanities encounter when using the computer.

A primary problem was readily identified. There is a severe shortage of funds available for Humanities projects requiring computing. The problem in part was shown to be a function of the present allocation of research subsidy funds within the University. Of the fifty computer users in the Humanities, twenty-two received no research subsidy, and of those who did receive a subsidy the majority have received small amounts. Normally research projects within the University are subsidized with computing funds. Even at this level of support, $93,000 of University subsidy funds in the 1977-78 budget year were either diverted to other purposes or went unspent by departments mainly in the sciences and social sciences. It is noteworthy that during the same budget year, people in the Humanities spent $53,000 on computing. The funding was primarily from external sources such as grants. During the first six months of the current budget year, this same group has spent $46,000, again primarily from sources external to the University.

The fact that a large group of concerned users from within the Humanities is now meeting to discuss their common problems coupled with the increased computer usage by this group is an indication of the increasing importance of computing to the Humanities. The need to reallocate funds to accommodate these new users was recognized by Dr. T.C. Clark of the Office of Research Administration. He stressed the importance of presenting a unified case to the University Administration. It was his opinion that funding for the Humanities should and would be given special consideration.

In order to provide a mechanism to present their case and to share solutions to problems as well as resources, the Humanities representatives agreed to form the Humanities User Group. Professor J.C. Hurd (Trinity College) was elected to serve as Chairman of the group.

Another area of concern which received attention was the necessity of having a UTCC staff member who can devote his full-time efforts to assisting Humanities users. The computer applications of this group require special attention to be given to concordances, text preparation, computer text analysis, dictionary preparation, and other related topics. UTCC agreed that such a staff member is desirable and expressed concern that the current University budgetary constraints made the acquisition of such a person difficult. Dr. Clark indicated that funds were available to finance approximately half of such a person's salary and that this was an area in which the group should lobby for support.

cont'd...

COMPUTING IN THE HUMANITIES cont'd

In addition to funding and personnel concerns, the group intends to address other areas of shared interest. These include promoting computing as a tool within their own disciplines, sharing of software packages, comparing the use of computing in the Humanities at other universities to that at the University of Toronto, and providing a general forum to share expertise.

Don Gibson

WINTER TERM ORIENTATION

Orientation sessions will be offered to first year Computer Science and Engineering classes and to students enrolled in other courses that will require using computer services for the first time.

Professors and instructors who expect to have students in this situation at the beginning of Winter Term are asked to contact Marg Doherty, Room 206, Engineering Annex, 978-3960.

Marg Doherty

SCSS ON THE DEC

SCSS, the SPSS Conversational Statistical System, has been up and running on the DECsystem-10 for over a month with no problems reported. There is, however, a related problem in that the SAVE SCSS procedure in release 8A of batch SPSS does not produce a file usable on the DEC. Therefore, the SAVE TRANSPOSE procedure in release 7.2 must be used to generate the IBM SCSS master file on the IBM disk. To use release 7.2, code:

```
// EXEC SPSS,VERSION=H72
```

File transfer has also become a more complicated procedure because the IBM machine and the DEC are at different sites. The tape must be transported between machine rooms. It is hoped that in the near future it will be possible to transfer the file directly from IBM disk to DEC disk using the communication link between the two machines. Before attempting to transfer files, call John Roth at 978-6878 for the latest information on the facility.

John Roth

MANAGER LEAVING

I am pleased to announce Stan Yagi's appointment to the position of Assistant Director. However, I am sorry to announce that his appointment will be at Queen's University Computing Centre in Kingston, Ontario.

cont'd...

MANAGER LEAVING cont'd

Stan joined the University of Toronto Computer Centre in 1971 and since that time has been largely responsible for the creation of a strong User Services organization. Over the years Stan has developed a strong rapport with many of our users and has always promoted awareness within the Centre to be responsive to our user needs. Needless to say, Stan will be missed by our users and staff. We all wish Stan continued success in his new position at Queen's. I would like to personally thank Stan for his contribution to the success of this Centre. It has always been a pleasure to work with him and his staff.

Rein Mikkor

PERSONNEL CHANGES

Terry Farley arrived at UTCC December 7, 1978 to fill the new position of Systems Librarian/Clerk Typist. He comes to us from the Department of Psychology where he worked for several academic staff members in the capacity of clerk-typist. Terry has also had experience as a console operator and has worked with a DEC 10 system at CN bringing some valuable experience with him.

Agatha Stevens has become the new Services clerk typist. Her background includes a four year stint with the Chase Manhattan in New York which she assures us is quite a study in erratic behaviour! With her knowledge and expertise to aid her it is hoped she will enjoy her new responsibilities with the Services group.

It is a pleasure to have you both with us.

Clara Pereira

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

ACM Symposium on Principles of Programming Languages, 5th, Tuscon. Jan. 1978.
  Conference record.
NY, ACM, 1978.

Annual review of information science and technology.
  v.10(1975); v.11(1976); v.12(1977)

Association for Computing Machinery.
  Proceedings of the national conference, 32nd, (1977).

Denning, Peter J.; Dennis, J.B. and Qualitz, J.E.
  Machines, languages, and computation.
Englewood Cliffs, N.J., Prentice-Hall, 1978.

cont'd...

RECENT ACQUISITIONS cont'd

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UTCC SYSTEMS

3033 PROCESSOR

- located in McLennan Physical Laboratories
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR
- 6 megabytes of memory
- MVS with JES2

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- OS/MVT with APL and ATS

DECSYSTEM 1090

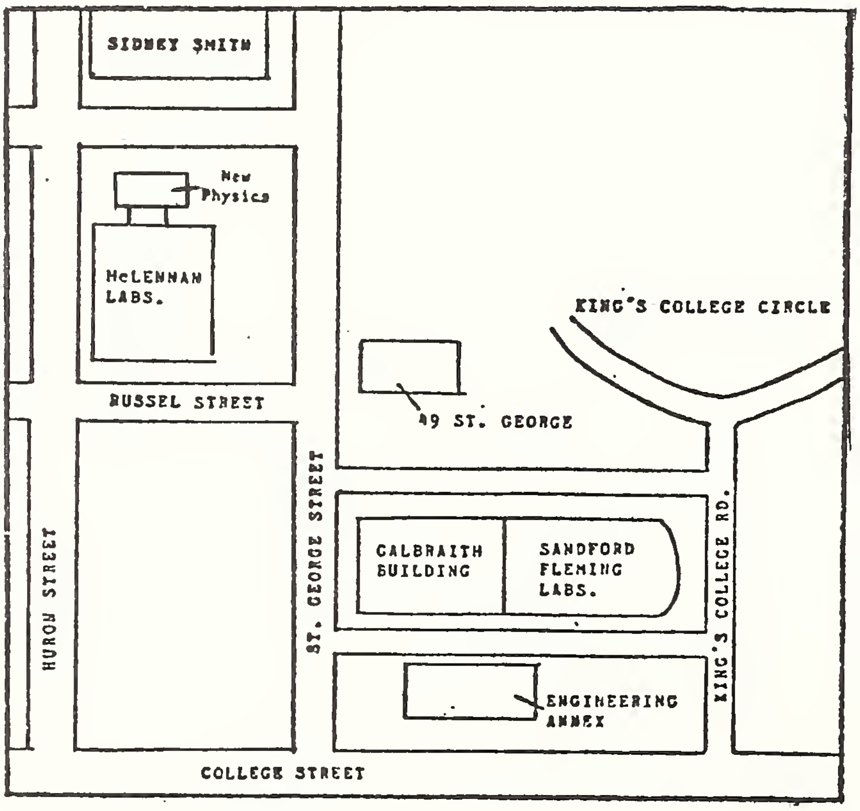
- provides General Purpose Time-Sharing
- 256k - 36 bit words of memory
- TOPS10 operating system

COMMUNICATIONS & SMALL SYSTEMS

- located in SF207/SF109/112
- DEC GT44 System with PDP-11/40 CPU
- DEC GT40 System with PDP-11/05 CPU
- provides specialized graphics and interactive graphics
- provides on-line and real-time computing services, data acquisition and minicomputer services

SYSTEM/370 MODEL 165-II

- currently unavailable



UTCC DIRECTORY

POSITION	ROOM	CENTREX PHONE NUMBER
DIRECTOR		
Dr. Doron Cohen	NP350	8948
ASSOCIATE DIRECTOR		
Rein Mikkor	NP350	5058
ASSOCIATE DIRECTOR		
Al Heyworth	NP350	4936
MANAGER, COMMUNICATIONS AND SMALL SYSTEMS		
Eugene Siciunas	NP350	4967
MANAGER, OPERATIONS		
Derry Cox	NP350	7092
MANAGER, SYSTEMS		
Sean Keeley	NP350	3579
TECHNICAL MANAGER		
Dennis Smith	NP350	4800
ASSISTANT TO THE DIRECTOR		
Suzan Fawcett	NP350	4428
INFORMATION & ACCOUNTING OFFICE		
General Inquiries	EA206	4990
Marg Doherty	EA206	8995
ACCOUNTS		
Merton Hunte	EA206	8702
Sylvia May	EA206	7148
ACCESS CODES		
Janet Howarth	EA206	8703
INFORMATION & CUSTOMER SERVICES		
Don Gibson	EA201	5568
SUPERVISOR, PROGRAMMING SERVICES		
Helen Peacock	SG201	6877
SUPERVISOR, APPLICATIONS		
Herb Kugel	SG304	7286

SUPERVISOR, CO-ORDINATORS

Ralph Lombardi	SG305	7130

COMPUTING CO-ORDINATORS

Engineering Annex Terminal		
Jill Reece	EA103A	4357
Program Advisors	EA103	
Time-Sharing Support		
TS Advisors	SG204	6465
Mark Tapia	SG204	7109
Erindale		
Paul Shindman		828-5311
Scarborough		
Ihor Prociuk		284-3173
Arts and Science		
Sue Chong	SS2133	6509
New Physics		
Bob Chambers	NP1203B	8823

SUPERVISORS, OPERATIONS

Paul Scarborough(S/370-3033)	NP335	6220
Kam Jain (S/360-65 & DEC 1090)	NP335	7374
Dave Wong (S/370-158)		6864

KEY:

EA = Engineering Annex
SG = 49 St. George
NP = McLennan Physical (New Physics)
SF = Sandford Fleming
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/3330,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107

TIME-SHARING SERVICES	DIAL-UP
APL,ATS	7200 CENTREX 7201 NON CENTREX
TSO,WYLBUR	6200 CENTREX 6201 NON CENTREX
DEC	4224 CENTREX 4244 NON CENTREX
PHONE-IN ADVISING	6465

UNIVERSITY OF TORONTO
COMPUTER CENTRE,
TORONTO, CANADA,